



<b>Course Title</b>	Fluid Mechanics for Civil and Environmental Engineers
<b>Course Unit Code</b>	CEE 270
<b>Type of Course Unit (Compulsory / Optional)</b>	Compulsory
<b>Level of Course Unit</b>	1 <sup>st</sup> cycle
<b>Year of Study</b>	2 <sup>nd</sup> year
<b>Semester when the Course Unit is Delivered</b>	Fall
<b>Number of ECTS Credits Allocated</b>	5
<b>Name of Lecturer(s)</b>	Dr Marina Neophytou
<b>Learning Outcomes of the Course Unit</b>	<ul style="list-style-type: none"><li>• Understanding of basic terms in fluid dynamics</li><li>• Familiarization of students with the scope and applications of fluid mechanics.</li><li>• Understanding of fundamental governing equations (mass and momentum) for a control volume.</li><li>• Examine engineering applications, such as buoyancy, flow measurement, lift and drag forces, etc.</li><li>• Demonstrate the application of basic principles of Fluid Dynamics in natural phenomena as well as in civil and environmental engineering problems.</li></ul>
<b>Prerequisites</b>	Physics for Engineers (PHY 134)
<b>Co-requisites</b>	There are no co-requisites for this course.
<b>Course Contents</b>	<ol style="list-style-type: none"><li>1. Introduction to Fluid Mechanics</li><li>2. Fluid Statics (Hydrostatics)</li><li>3. Control volume approach</li><li>4. Steady-flow momentum equation</li><li>5. Equations tangential and perpendicular to streamlines: Bernoulli's equation and curved streamlines</li><li>6. Differential analysis of two-dimensional flows and viscous effects</li><li>7. External Flows and Boundary layers</li><li>8. Similarity Principles</li><li>9. Scaling and Model Testing</li></ol>
<b>Required Reading</b>	Lecture Handouts (delivered at each lecture by the instructor)
<b>Recommended Reading</b>	MUNSON B, YOUNG D, OKIISHI T., <b>FUNDAMENTALS OF FLUID MECHANICS</b> John Wiley & Sons, Inc. 2006, Fifth Edition
<b>Planned Learning Activities</b>	Series of Exercises( about 5), Mid-term test
<b>Teaching Methods</b>	Lecture
<b>Assessment Methods and Criteria</b>	Final exam, Mid-term exam and regular series of exercises as homework
<b>Language of Instruction</b>	Greek
<b>Work Placement(s)</b>	N/A